

LEAK Sandwich 150 & 250



**available in Walnut finish*

Availability	
Order Date:	September 2023
Shipping Date:	October 2023

Recommended Retail Price: Sandwich 150 £999 / Pair
Sandwich 250 £1999 / Pair
Sandwich 250 & Stands £2299 / Pair
Sandwich 250 Stands £799 / Pair

Sandwich 150 & 250 Loudspeaker

OVERVIEW

A major loudspeaker invention

Throughout the history of broadcasting and recording, certain exceptional developments have become milestones in the progress of sound reproduction.

One such milestone was the world's very first low distortion amplifier - the famous original Leak Point One, in 1945. Another was the pioneering major breakthrough with the invention of the fantastically rigid Leak sandwich cone diaphragm - which was demonstrably of great strength and many times stiffer than all conventional forms of cone, of its time.

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...the first name in high fidelity since 1934

To understand the impact of this innovation, one must remember that to obtain low distortion, the movement of a loudspeaker diaphragm, or cone, should follow as accurately as possible the waveform of the signals applied to its voice coil. The ability of the current to follow these impulses accurately depends upon the lightness and stiffness of the cone assembly. Many conventional cones: paper, impregnated fabric, plastics, aluminium etc all generally suffer from low stiffness. This results in significantly larger areas of the cone vibrating in motion, uncontrolled by the voice coil. These uncontrolled motions produce transit "hangover", amplitude distortion (peaks and troughs in the frequency response) and intermodulation distortion (lack of clarity of spurious tones). Those shortcomings are inherent in almost all direct radiator loudspeaker systems using conventional cones, irrespective of cost.



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All of these shortcomings are overcome by the Leak Sandwich construction. Originally presented in 1961, the Sandwich used engineering and design principles applied to airframe construction. Now, reintroduced and re-engineered with modern-day learnings, the new Leak Sandwich cone comprises of a stiff aluminium skin for the outer surfaces (where the stresses are greatest) bonded to a thick core of a polymethacrylimide (PMI) based structural foam, often used aerospace and the automotive industries. This applied, precision-engineered use of the most suitable materials in optimum proportions and dispositions gives immense rigidity. This means the Leak Sandwich cone reproduces the signal applied to the voice coil, totally free from mechanical break-up and its associated distortions. The result is a remarkably smooth frequency response, free from violent peaks or troughs over a very broad frequency range, indicative of an excellent, transient response.



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It is not often sufficiently realised how profound the influence of the loudspeaker housing (the cabinet) is on the overall acoustic performance. Its design requires a great degree of electroacoustic knowledge as a design of the motor units themselves. The new Leak Sandwich cabinet benefits from 60 years of technological development since the original. The structure consists of a composition of MDF and composite board, thus creating a second 'sandwich' reference, with the boards layered for optimum cabinet strength. While the new cabinet fuses intelligent bracing with this 'sandwich' of materials, it also maintains a specific front-rear bracing, with the distinct, visible countersunk screw on the rear - a famous trait of the original.



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The Leak Sandwich 150 and 250 are the pinnacle of innovation that commenced in 1961 with the original Leak Sandwich. Those technological advancements are implemented with the utmost regard for tradition, as well as the continual aspiration to forge sound reproduction equipment of the highest quality, accessible to every discerning audiophile.

The Leak Sandwich 150 comes in the format of a 2-way standmount loudspeaker with a combination of 6.5" (170mm) low-frequency 'Sandwich' driver and a 1.2" (30mm) coated textile dome high-frequency driver.

The Leak Sandwich 250 is a larger format, 3-way standmount loudspeaker with a 11" (280mm) low frequency 'Sandwich' driver, a 4.25" (108mm) 'Sandwich' mid-range driver and 1.2" (30mm) coated textile dome high-frequency driver. The Sandwich 250 is available with, or without, a matching custom-specified stand, finished in a matching real-wood veneer.



Sandwich 150 & 250 Loudspeaker

Features

High Frequencies

The isolated compartment for the HF unit prevents modulation from the rear bass and eliminates cavity resonances.

A stiff, long voice-coil, powerful magnets and compliant suspensions ensure ample linear excursions of the specifically designed HF unit.

Mid and Low Frequencies

The mid-bass and bass-frequency units have a long voice coil, powerful magnet and compliant suspensions to ensure large linear excursions.

The Sandwich cone is many times stiffer, and no heavier than conventional cone materials. The scientifically developed diaphragm gives freedom from colouration and break-up of resonances. The specially shaped dome further strengthens the cone and eliminates interference effects.

Rolls of custom-specified damping provide a dual purpose

- i) eliminate cavity resonances and
- ii) extend bass response downwards by converting internal air pressure changes from adiabatic to isothermal

Cabinet

The airtight outer cabinet is completely sealed with a specially designed rear porting system. Both the 150 and 250 models are fitted with dual ABS bass ports, with a precision flared design. The cabinet offers efficient air pressure equalisation, without 'chuffing'.

Specially developed with a 'sandwich' construction and front-to-rear bracing ensures 'dead' cabinet walls, giving deep clear bass without "boxiness".

Finished in an exquisite hand-applied, real-wood veneer.

Both the diecast frame and the baffle hole, are shaped and positioned to give a flat response by eliminating diffraction and cancellation effects.

Internal Considerations

Rolls of custom-specified damping provide a dual purpose:

- i) eliminate cavity resonances and
- ii) extend bass response downwards by converting internal air pressure changes from adiabatic to isothermal.



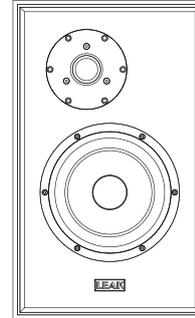
Sandwich 150



Sandwich 250

Sandwich 150 & 250 Loudspeaker

SPECIFICATIONS



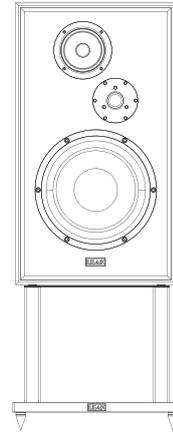
Sandwich 150

Model

General description	2-way vented-box/standmount
Design philosophy and core technology	
Enclosure type	Bass reflex
Transducer complement	2-way
ABR	
Bass driver	6.5"(170mm) Aluminium-Foamcore Sandwich cone
Midrange driver	
Treble driver	1.2"(30mm) Coated Textile Dome
Full-range driver	
AV shield	No
Sensitivity (2.83V @ 1m)	86.5dB
Recommended amplifier power	25-150W
Peak power handling	
Peak SPL	106dB
Nominal impedance	6Ω (8Ω Compatible)
Minimum impedance	4 Ω
Frequency response(+/-3dB)	44Hz ~ 26kHz
Bass extension(-6dB)	38Hz
Crossover frequency	2.4kHz
Cabinet Volume (in litres)	19.6L
Dimensions (mm)	
Height (on plinth)	415mm
Width	250mm
Depth (with terminals)	(290+25)mm
Carton size	650*400*530mm
Net weight	12.3kg/pcs
Gross weight	27kg/ctn
Finish	Real Wood Veneer - Walnut
Standard accessories	Rubber feet

Sandwich 150 & 250 Loudspeaker

SPECIFICATIONS



Model

Sandwich 250

General description	3-way vented-box/standmount
Design philosophy and core technology	
Enclosure type	Bass reflex
Transducer complement	3-way
ABR	
Bass driver	11"(280mm) Aluminium-Foamcore Sandwich cone
Midrange driver	4.25"(108mm) Aluminium-Foamcore Sandwich cone
Treble driver	1.2"(30mm) Coated Textile Dome
Full-range driver	
AV shield	No
Sensitivity (2.83V @ 1m)	88.5dB
Recommended amplifier power	25-250W
Peak power handling	
Peak SPL	112dB
Nominal impedance	6Ω (8Ω Compatible)
Minimum impedance	4Ω
Frequency response(+/-3dB)	42Hz ~ 26kHz
Bass extension(-6dB)	32Hz
Crossover frequency	470Hz & 3.1kHz
Cabinet Volume (in litres)	2.7L,45.5L
Dimensions (mm)	
Height (on plinth)	655mm
Width	370mm
Depth (with terminals)	(300+30)mm
Carton size	500*430*790mm
Net weight	27.3kg/pcs
Gross weight	30.2kg/ctn
Finish	Real Wood Veneer - Walnut
Standard accessories	Rubber feet
Optional accessories	Leak Sandwich 250 stand